

REMARKS

Review and reconsideration on the merits are requested.

Applicants affirm their election of claims 1-16.

Turning to the rejection of claims 13-16 under 35 U.S.C. § 112, second paragraph, as the Examiner has suggested "from" is inserted before the ranges in these claims and also in claims 11 and 12.

Withdrawal is requested.

Applicants now turn to the rejection of claims 1-16 under 35 U.S.C. § 103(a) as unpatentable over JP 10119425 (JP '425) in view of U.S. Patent 5,017,268 Clitherow et al (Clitherow).

The rejection of these claims is respectfully traversed.

Since Applicants believe establishing the patentability of claim 1 will establish the patentability of all claims, only claim 1 is discussed.

The Examiner's position on the prior art is set forth at page 5 of the Action and will not be repeated here except as necessary to an understanding of Applicants' traversal.

The present invention provides a sizing agent comprising a water-soluble soybean polysaccharide (claim 1 of the present application). The technical features of the present invention are explained in the specification as follows (see page 3, lines 12-24).

"In the present invention, the inclusion of a cationic polymer in the sizing agent is preferable to further improve the fixing and color development of ink. It is presumed that the water-soluble soybean polysaccharide attracts a cation of a cationic polymer having a

minus-charged main chain, resulting in a pseudo-cross linking between the water-soluble soybean polysaccharide and the cationic polymer in the sizing agent as shown in Fig. 1. When only a cationic polymer is coated, most of the cationic polymer permeates into the inside of the paper. On the other hand, when a pseudo-cross-linked product of the water-soluble soybean polysaccharide and the cationic polymer is formed, the cationic polymer remains on a paper surface without penetrating inside the paper, resulting in improvement in ink fixing and color development even with a small amount of the cationic polymer (emphasis added) (see page 3, lines 12-24 of the specification).

Since the water-soluble soybean polysaccharide is a water-soluble polysaccharide extracted from soybeans or a soybean extraction residue and subjected to desalinating purification, the sizing agent comprising a water-soluble soybean polysaccharide of the present invention is quite important from the viewpoint of avoiding environmental pollution.

JP '425 discloses, as described in the specification of the present application, page 2, a plain paper for inkjet printing coated with a coating composition liquid comprising as effective components, an artificial cationic polymer and a water-soluble resin. JP '425 uses an artificial cationic polymer based on polymerized substances consisting of a skeleton of (meth)acrylamide alkyl quaternary ammonium salt having a benzyl group to improve the water resistance of a picture formed by inkjet recording (see the English abstract).

JP '425 is silent regarding a sizing agent containing a water-soluble soybean polysaccharide as an indispensable component for providing a plain paper and a recording paper comprising a sizing agent as such. Therefore, one skilled in the art referring to JP '425 would

not be motivated to reach the present invention in claim 1 which mandates "A sizing agent comprising a water-soluble soybean polysaccharide", and, accordingly, the present invention is not obvious over JP '425.

Clitherow discloses filler compositions comprising (a) a filler, (b) fibers and (c) a polymer as a coupling agent between the fillers and the fibers, which includes polysaccharide-based substances like starch and derivatives thereof (emphasis added) (see column 2, lines 32-39, column 6, lines 4-7). However, a coupling agent as such, does not function as a sizing agent in Clitherow, because Clitherow recommends the separate use of sizing agents (see column 9, line 22, lines 30-41). Clitherow thus fails to teach a sizing agent comprising a water-soluble soybean polysaccharide. } agree (Mar 2002)

Therefore, one skilled in the art referring to Clitherow would not be motivated to reach the present invention recited in claim 1; accordingly, the present invention is not obvious over Clitherow.

Even if one were to combine JP '425 with Clitherow, from the above discussion it is believed quite clear that there is no teaching of the combination of a sizing agent comprising a water-soluble soy bean polysaccharide as claimed herein.

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Application No.: 09/725,040

Withdrawal of the rejection and allowance of all claims is requested.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Peter D. Olexy", written over a horizontal line.

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APPENDIX
VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

The claims are amended as follows:

11. (Amended) The sizing agent according to claim 9, wherein said surfactant is a nonionic surfactant having HLB of from 5-15.
12. (Amended) The sizing agent according to claim 10, wherein said surfactant is a nonionic surfactant having HLB of from 5-15.
13. (Amended) The sizing agent according to claim 3, wherein a weight ratio of said cationic polymer to said water-soluble soybean polysaccharide is from 0-50.
14. (Amended) The sizing agent according to claim 13, wherein the weight ratio of said cationic polymer to said water-soluble soybean polysaccharide is from 0.5-20.
15. (Amended) The sizing agent according to claim 8, wherein a weight ratio of said surfactant to said water-soluble soybean polysaccharide is from 0.05-200.
16. (Amended) The sizing agent according to claim 15, wherein the weight ratio of said surfactant to said water-soluble soybean polysaccharide is from 0.1-10.